

## Prevalence Of Venous Thromboembolism (VTE) Prophylaxis In Patients Undergoing Arthroplasty At Hospital Tengku Ampuan Rahimah (HTAR)

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### INTRODUCTION:

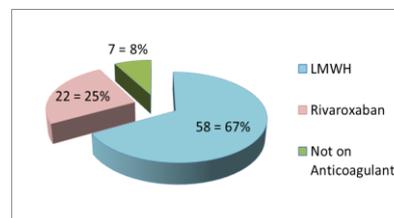
VTE has been a prevailing concern since it may lead to significant preventable morbidity and mortality following total hip arthroplasty (THA) and total knee arthroplasty (TKA). As such, optimal thromboprophylaxis is essential to minimise the incidence of VTE following these procedures. Current CPG and NICE guidelines advise for mechanical VTE prophylaxis at admission, whereas pharmacological VTE prophylaxis should be initiated after surgery with either dabigatran etexilate, fondaparinux sodium, low-molecular-weight heparin (LMWH), rivaroxaban or unfractionated heparin (UFH) and should be continued for 28-35 days.<sup>1,2</sup> Thus the study was conducted to assess the adherence of HTAR to CPG/NICE guidelines in the administration of VTE prophylaxis to THA/TKA patients.

### MATERIALS & METHODS:

A retrospective review was performed of 87 patients undergoing THA or TKA at HTAR (1/7/2015-24/1/2017). A standardized pro-forma was used to collect data from the case notes. Patients' particulars, operative factors, presence of bleeding risk and thromboprophylaxis details were documented. Comparison was made with CPG/NICE guidelines.

### RESULTS:

The mean age of the 87 patients (64 females, 23 males) was 63.71. Of all the 87 patients undergoing THA (n=17) or TKA (n=70), none of the patients received any form of mechanical VTE prophylaxis at admission. 80 of them (92%) received pharmacological VTE prophylaxis after surgery with either one of the mentioned drugs. After discharge, those who had received pharmacological prophylaxis were given either rivaroxaban or aspirin (not mentioned in the CPG/NICE guideline) for either 10 or 14 days only. None of them were continued for 28-35 days.



**Figure 1:** Types of in-hospital pharmacological VTE prophylaxis received after surgery

### DISCUSSIONS:

At admission, none of the patients received any methods of mechanical VTE prophylaxis since they are not easily available in wards. Enoxaparin (LMWH) was most commonly prescribed (n=58) but was replaced by either rivaroxaban or aspirin after discharge as it requires self-administered daily subcutaneous injection. Besides, heparin-induced thrombocytopenia is a concern and requires frequent monitoring. After discharge, the VTE prophylaxis was extended for either 10 or 14 days due to the cost constraint and the concern of bleeding risk. In fact, the incidence of VTE peaks at 3 weeks following THA and inadequate extension of prophylaxis potentially expose patients to a higher VTE risk.<sup>3</sup> The audit results should be presented to the department to encourage and educate the clinicians on adherence to the VTE prophylaxis guidelines. A re-audit should be undertaken to evaluate progress and should include the in-hospital and post-discharge VTE incidence following THA and TKA. The comparison of efficacy and safety profile among the various thromboprophylaxis agents may also be the subject of further research.

### CONCLUSION:

Though in-hospital pharmacological VTE thromboprophylaxis was routinely done, the provision of mechanical VTE prophylaxis at admission and inadequate duration of the post-discharge pharmacological VTE prophylaxis remains a potential area of improvement. The choice of post-discharge pharmacological VTE prophylaxis should be prescribed as per CPG/NICE guidelines.